of matter, systems which might be called para-matter.

And the third in the postulation of peculiar forms of energy operative in living matter. All three possibilities have been exploited.

The Super-Molecules and Biotic Energy of Benjamin Moore

We know that living things can form larger molecules than occur in the inorganic world; for we can ^extract such molecules from them; and it would seem that we cannot define any upper limit of such molecular upbuilding. The existence of colloids was long unsuspected. It was not until 1861 that the study of colloids was initiated by Thomas Graham. And colloids seem to represent the first step towards super-matter.

It seems that inorganic molecules never attain to molecular weights more than a few hundred times that of the hydrogen molecule; whereas in living tissues molecules are formed which contain some hundreds of carbon atoms as well as others; whose molecular weights therefore run into the thousands. Benjamin Moore pointed to these facts, and told us that, with increasing size of these organic molecules based on chains and rings of carbon atoms, instability increases: but * the exact limit at which instability stops the process [of increasing size of the molecule] is unknown to us'.[1]

As separated from the living tissues in which they are formed, these large molecules fall, for the most part, into three great classes: the hydrocarbons (sugars, starches, &c.), the fats, and the proteins.

But it seems not improbable that in the actual living tissue molecules of all three types may be combined. Many authors have played with this notion of the super-molecule. Some

[1] In his *Origin and Nature of Life* London, [1913].